

# ACKNOWLEDGMENTS

The real spirit of achieving a goal is through the way of excellence austere discipline. We would have never succeeded in completing our task without the cooperation, encouragement and help provided to us by various personalities. First of all, we render our gratitude to the ALMIGHTY who bestowed self-confidence, ability and strength in us to complete this work. Without his grace this would never come to be today's reality. It is indeed a moment of great pleasure and immense satisfaction for us to express our sense of profound gratitude and indebtedness to all the people who have contributed in making our project a rich experience.

We are grateful to Xavier Institute of Engineering for giving us the opportunity to actually work on a project and give a lot of knowledge. With deep sense of gratitude we express our sincere thanks to our esteemed and worthy guide Fr. Fabian Barreto for his valuable guidance in carrying out this work under their effective supervision, encouragement, enlightenment and cooperation. His enthusiasm stimulating and personal interest was a great support to us. Also thanks to our HOD, Dr. Suprava Patnaik who is always ready to help in our project and our Principle, Dr. Y. D. Venkatesh who gave us an opportunity to work on project in the college. Also we express our heartiest thanks to all the Lab Assistants of Xavier Institute of Engineering, for their patience and support in the labs.

In addition our sense of gratitude to all teaching and non-teaching staff of our department for directly and indirectly putting their helping hand in this venture. Without their constant encouragement, our project would not have led to success.

# **Abstract**

In this project, it is shown how the speech signals are recognized using back propagation algorithm in neural network. Voices of different persons of various ages in a silent and noise free environment by a good quality microphone are recorded. Same sentence of duration 4 seconds is spoken by these persons. These spoken sentences are then converted into wave formats. Then features of the recorded samples are extracted by training these signals using LPC. Learning is required whenever we don't have the complete information about the input or output signal. At the input stage, 210 samples of each sentence are applied, then through hidden layers these are passed to output layer. These networks are trained to perform tasks such as pattern recognition like giving a number to speech signal. Then this speech signal is used for controlling a robot.

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## **List of Abbreviations**

| <b>Sr. No.</b> | <b>Abbreviation</b> | <b>Expanded form</b>               |
|----------------|---------------------|------------------------------------|
| i              | NN                  | Neural Networks                    |
| ii             | LPC                 | Linear Predictive Code             |
| iii            | MATLAB              | Matrix Laboratory                  |
| iv             | MFCC                | Mel Frequency Cepstral Coefficient |
| v              | HMM                 | Hidden Markov Model                |
| vi             | BP                  | Back Propagation                   |